



# RunJob Project

RunJob Project Stakeholders Meeting

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# Outline of Talk

- What can RunJob do for you?
- Conceptual Design
- Project Status
- Manpower



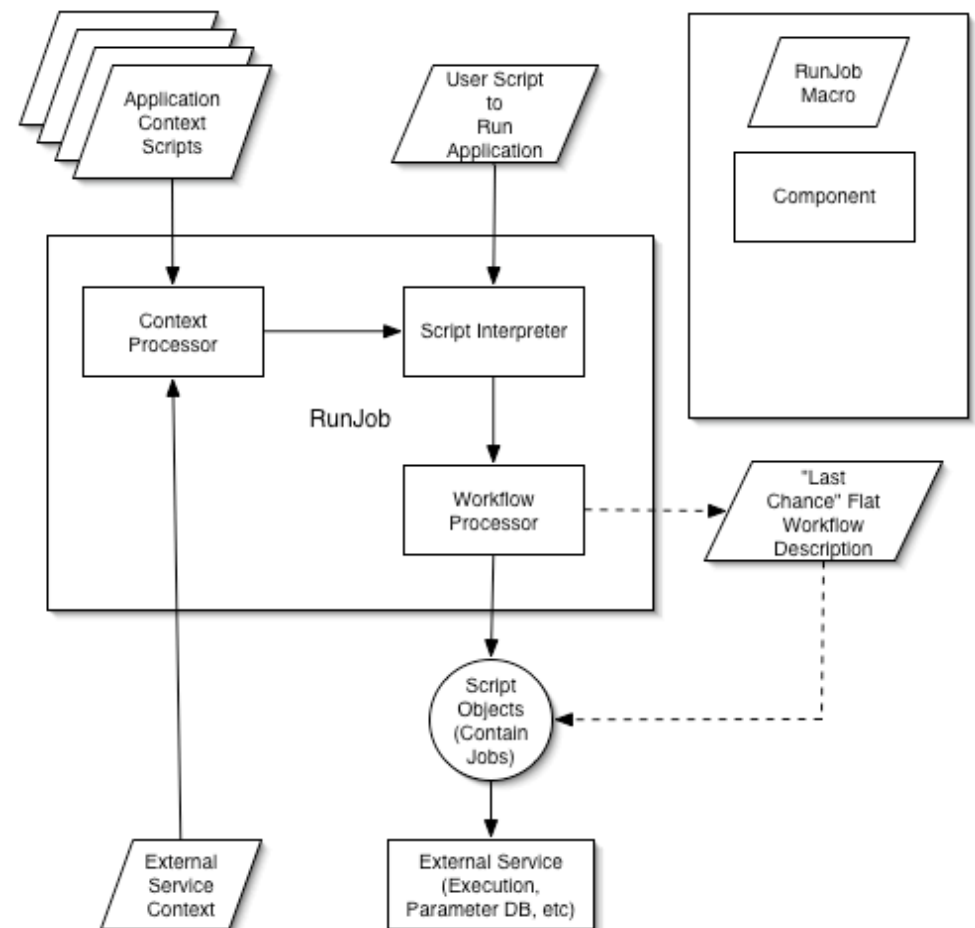
# What is RunJob?

- RunJob is a Job Creation/Submission Tool
  - Metadata based job descriptions
    - Tracks metadata from source to completion
    - Sources can be the user, a database, a file, or another application
  - Workflow specification
    - Multiple applications can be chained together using the metadata features
  - Jobs can be targeted for multiple local environments or grids
    - Abstract description of jobs allows for multiple environments to be targeted.
    - Eg- local batch, direct Condor-G, and LCG are now supported



# Conceptual Design

- Application contexts coming from potentially many sources are combined.
  - Conflicts are currently resolved by “last one in” rule
- User script is interpreted next
  - Applications specified in the user macro are configured according to the environment specified in the contexts.
- Workflow processor is run
  - ScriptObjects representing jobs are created and stored
  - Post processing may include submission of scriptObject to a batch resource specified in a context.





# Conceptual Design

- Support for Job Preparation “Design Patterns”
  - Common operations on jobs
    - Interoperability; dressing a job for submission to specific resources.
  - Instrumentation of jobs
    - Wrapping an executable in a manager (eg- BOSS)
    - Co executing a monitor application (eg- RMT)
  - Aggregating jobs
    - Gathering sequential job into a container job; DAG model



# Project Status

- As presented in February, “integration tasks” are considered “on project”.
- Items from February plan that are DONE:
  - ScriptObject architecture (job representation) finished in March 2004 on schedule.
  - Context mechanism was prototyped and implemented
  - CMS Switchover to RunJob
  - File Meta Broker (binding of small files to transport services) was done and implemented
  - RunJob Release\_1\_0 was released in May 2004.
    - Also Release\_1\_2 to support CMS Integration and Release\_1\_3 to support CMS Monte Carlo Processing Service
  - Unit Tests module implemented
- Done in addition to February Plan:
  - Coding standards written down and enforced by PyLint parser



# Project Status

- Items from February plan that are In Progress and/or Late:
  - DZero Integration with RunJob
  - CDF Initial Package with RunJob
  - XML Specification of core components
    - “ConfiguratorFactory” is done in XML
- Items from February plan that are being explored in experiment specific contexts:
  - Common Batch Systems (DZero and CMS)
  - LCG-2 interfaces (DZero and CMS)
  - Web Services architectures and implementations (CMS)
  - SAM Grid interfaces (DZero)



# Project Status

- Items from February plan that are “On Hold”:
  - Namespace specification, easier references to metadata in other applications
  - Dynamic application ordering
  - Macro language syntax
  - Support for metadata flow models
  - Fault tolerance and job tracking
  - Runtime architecture
- New items
  - D0Tools integration
- Items from February plan that are dropped:
  - User interface work (will just use web services)





# Current Manpower

- Greg Graham, Project Leader, 30%
- Eric Wicklund, Librarian and Testing, 50%
  - Releases, unit tests
- Anzar Afaq, CMS Integration Tasks, 5%
  - Making sure MOP survives RunJob integration
- Dave Evans, CMS Integration Tasks, 75%
  - POOL Configurator, MCPS
- Dave Evans, Core Runjob, 25%
  - File Meta Broker, Coding Standards
- Vijay Sekri, CMS Integration tasks, 5%
  - LCG-2 Configurator
- Jerry Guglielmo, CMS Integration Tasks, 20%
  - Ramped down to 5% when Dave joined
- Peter Love, DZero Integration Tasks, 100%
  - “Version 7”, not mainstreamed until fall
- Bob Illingworth, DZero Integration Tasks, ?
  - D0Tools integration, not considered “on project”